

## What role for pension funds in financing climate change policies?

Paris, 23 May 2012

### *Executive summary*

The current climate change policy agenda faces two major challenges. One is with the absence of a strong regulatory framework for effective emission reductions. The other is with the lack of financial resources to implement emission reduction and adaptation policies with a specific focus on the developing world.

Trade unions strongly believe that it is governments and publicly accountable financial institutions that should take the lead in ensuring proper financing of mitigation and adaptation policies. But institutional investors can and should have a complementary role given the change in scale that is needed. Pension funds represent an important class of asset owners and one with which trade unions have a special relationship. They have a social purpose, that of financing workers' right to retirement and most often they are established as part of a collective bargaining agreement and include union representatives on their board of directors (the "pension trustees").

Given its size, the pension fund industry could play a key role in raising climate change-related private financing. Our calculations suggest that pension funds' net contribution to financing of climate change projects could potentially reach USD301bn in 2015 – if by that time portfolio exposure to climate change reaches 5%. Annual flows would then gradually decrease over the period and stabilise at USD80-90bn by 2040. Total flows would reach USD3.7tr for 2013-2030 and USD5.9tr for 2013-2050. These projections are based on conservative assumptions: (i) only the larger public and private pension schemes – accounting for approximately half of worldwide pension assets – would have the flexibility and capacity to re-allocate and (ii) portfolio exposure per asset class remains within prudential norms throughout the period.

There are important barriers that need to be overcome however for that financial contribution to be unleashed. The most challenging ones are on the supply side of the market, namely the limited access to climate change investment products. The current green bond market value is estimated at USD16bn, "a drop in the ocean" of the world bond markets, while annual green bond issuances are in the range of USD1-2bn.

Pension funds are tightly regulated financial institutions when it comes to risk management of their portfolio. Because they aim at financing a social purpose – workers' right to retirement – they cannot take excessive risks in the choice and design of their investment policy. Yet

dealing with the ‘green risk’ – that risk that is specific to climate change-related investments – is no easy task. Climate change infrastructure for example is an asset class that entails a higher degree of investment risk than comparable ‘brown’ investment (use of recent or unproven technologies, uncertainty and inconsistency of regulations and policies, cross-border investment risks). The fall outs of the global financial crisis since 2008, including the demise of global private insurers (‘monoliners’) are not making things easier. In fact it may be argued that the post-crisis G20 financial reform agenda was designed in a way that does sufficiently take on board climate change financing priorities.

On the short term, the best way to deal with the ‘green risk’ is to enhance government guarantees on green bonds and clean energy investment funds to ensure they become sufficiently attractive for pension funds. But past experiences with Public-Private Partnerships and more recently the post-crisis bailing out of the banking sector suggest that public support for private financing does not come free for governments and their citizens. From a trade union point of view it is also clear that private infrastructure financing – however ‘green’ it is or becomes – would still be of concern if it directly or indirectly leads to privatisation or weakening of public services.

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***The climate change financial challenge***

1. The current climate change policy agenda faces two major challenges. One is the absence of a strong regulatory framework for effective emission reductions. The other is the lack of financial resources to implement emission reduction and adaptation policies with a specific focus on the developing world and vulnerable communities.
2. There are various estimates on the additional level of financing that is needed to meet climate change objectives as set by the United Nations Framework Convention on Climate

Change (UNFCCC). The most commonly cited figure dates back to the agreement reached in the Cancun conference in 2010 where governments committed to raise USD100bn per year by 2020 for developing countries to meet climate change adaptation and mitigation targets. The creation of a new “Green Climate Fund” was also agreed upon. Other estimates suggest a much broader financial efforts. According to a UN World Economic and Social Survey in 2011, some USD1.6tr would be needed per year by 2050 to finance energy transformation investments to meet global emission targets worldwide. And this figure does not include the needs related to climate change adaptation in developing countries.

3. Trade unions strongly believe that it is governments and publicly accountable financial institutions that should take the lead in ensuring proper financing of mitigation and adaptation policies. They have also made clear the need for sustainable investments in the creation of jobs that protect the environment and to ensure a ‘just transition’ to a low-carbon and climate resilient economy. As an example, the ITUC recently released a report showing that 2% of GDP invested each year for 5 years in greening the economy in 12 countries will generate around 50 million jobs in ‘traditional’ industries.

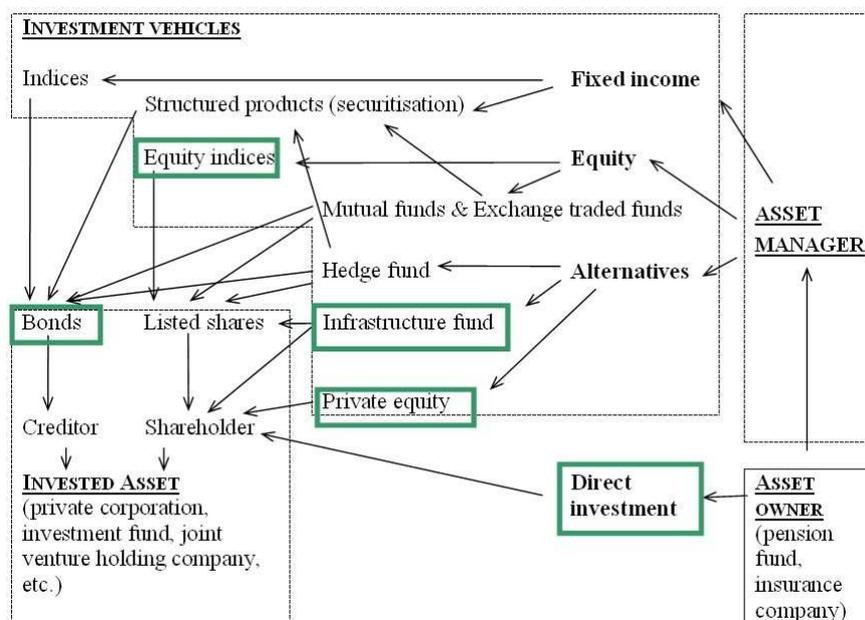
4. Climate change financing is and should remain firmly in the hands of governments and publicly accountable financial institutions. But private institutional investors can and should have a role as well given the change in scale that is needed – a role that complements, not substitute to government.

#### *Traditional banking versus market-based financing*

5. Historically, much of climate change-related project financing has been delivered through traditional direct loans by banks. That changed somewhat in recent years with the development of market-based mechanisms, including green bonds issued by multilateral development banks, as well as clean-energy private equity and infrastructure funds. The increasing share of market-based financing in part has been driven by a growing “appetite” of pension funds for alternative assets in a search for greater diversification of their portfolios away from traditional bond and equity.

6. But the shift also brings its own set of problems. Both systems are needed; it would be too far a stretch to expect market-based financing to substitute for bank lending. Yet bank lending and traditional bank financing have collapsed in many OECD economies as a result of the economic crisis and, it is argued, the tightening of prudential norms Basel III. The move toward market-based financing also bring more structural challenges in the form of rising “complexity” of the investment chain that binds the asset owner (including pension funds) to the invested asset. The days are over when a pension funds would simply “buy and hold” bonds and equity. As shown in the chart below, there is a plurality of combinations of asset ownership and management with a growing number of intermediaries and types of investment vehicles. That complexity of the investment chain poses serious challenges for asset owners in monitoring their portfolio and the risks associated with each investment classes and vehicles.

## The rising complexity of the investment chain



7. Against this background, and looking specifically at the potential for driving private sector flows toward climate change financing, the key questions that emerge are the following:

- *Scale:* the volume of private flows that would be desirable to complement to public financing;
- *Asset owners:* the respective financial contributions by each category of institutional asset owners: insurance companies, pension funds, retail mutual funds and sovereign wealth funds;
- *Asset management and investment chain:* the choice of investment vehicles and asset managers to channel the flows from the asset owners down to the climate change projects. The most common forms of climate change investments products are highlighted in green in the above chart: (i) green bonds, (ii) ‘sustainability’ equity indices, (iii) clean energy infrastructure and private equity funds and (iv) direct investments.
- *Product standardisation:* last but not least, a standardised definition of what qualifies as climate change-related investment, and if needed a graduation or distinction between “green”, “climate change-related” and “clean energy” finance.

## The role of workers’ pension funds

8. This paper’ focus is on pension funds. This is because trade unions have a special relationship with these financial institutions. They have a social purpose, that of financing workers’ right to retirement and most often they are established as part of a collective bargaining agreement and include union representatives on their board of directors (pension trustees).

9. The case for pension fund investments in green growth is difficult to oppose. In the run-up to the 2008 crisis, institutional investors, including pension funds, have been criticised for being “short-termist” as evidenced by the decline in the holding periods of equity and bonds, and in the growing allocations to highly speculative financial vehicles such as hedge funds. There is a wide consensus post-crisis on the need to address short termism and for pension funds to move toward longer term investment strategies. Pension fund portfolio compositions should contribute to, and not weaken financial stability through longer holding periods or “patient capital”. By increasing their investments in green projects that help transition to a low-carbon economy, it is argued that pension funds precisely would realign their portfolio with long term goals and move away from short termist investment strategies.

10. Several large pension funds are already active in financing climate change projects. In fact there seems to be some correlation between investments in climate change project and size of the pension scheme. And since size of the pension schemes most often goes hand in hand with collective bargaining coverage, it is heartening to note that the leaders in climate change investment are all established as part of collective bargaining agreements and all have trade union representatives sitting on their boards. To mention but a few examples:

- The Danish ATP pledged €1bn to a new climate change fund for emerging economies at the COP-15 summit in December 2009, and lately is aiming at reaching 10% share of its portfolio to be allocated to climate change investment;
- The US CalPERS has committed USD500m since 2006 to companies with a negative environmental footprint, and another USD1.5bn climate change private equity funds;
- The US CalSTRS also has committed over USD600m in climate change private equity funds;
- The Dutch ABP and PGGM and the Swedish AP7 also have sizeable commitments in climate change investment programmes.

11. These pension funds do not act exclusively on an individual basis. Several pension and institutional investor networks have been created to promote climate change investments, co-investments and policy advocacy: the EU-wide Institutional Investors Group on Climate Change (IIGCC)<sup>1</sup>, the Investor Group on Climate Change Australia/New Zealand (IGCC)<sup>2</sup>, the North American (& CERES-led) Investor Network on Climate Risk<sup>3</sup> and the P8 Group<sup>4</sup>.

*What is a climate change-related financial asset?*

12. The current share of pension fund investments in climate change financing is open to debate to the extent that it is largely dependent on how one defines such investment, both in terms of objective – increasing environmental ‘efficiency’, increasing renewable energy, reducing GHG emission – and of asset classes – listed equity, bonds, and investment funds.

13. At one end of the spectrum, a strict definition of climate change projects would limit the scope to ‘clean’ (renewable) energy infrastructure projects. Under that definition, the

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<sup>1</sup><http://www.iigcc.org/>

<sup>2</sup><http://www.igcc.org.au/>

<sup>3</sup><http://www.ceres.org/incr/>

<sup>4</sup>[http://en.wikipedia.org/wiki/P8\\_Group](http://en.wikipedia.org/wiki/P8_Group)

current contribution of pension funds is very marginal. The share of clean energy infrastructure in the largest pension funds (those that precisely are the current leaders) is typically around... 0.3 - 0.5% of total portfolio. Access to precise data is in fact problematic. Current pension regulation does not require pension funds to report asset allocation in a sufficiently detailed manner so as to identify the precise share of portfolio invested in infrastructure funds. At OECD level, these are lumped together with other alternative classes under an “other” category (see annex 1&2).

14. At the other end of the spectrum, a wide definition would include the ‘sustainability’ equity indices in which case the share of pension funds’ portfolio in climate change might be well above 10%. But not all sustainability indices are climate change specific. Some are, because they are based on a positive list approach in which selection is limited to companies specialised in clean energy technology. Other indices select companies above a threshold of revenues generated by clean energy activities (say 30%). Finally some indices – and the largest and most accessible one for investors in particular – have a process-based approach, looking at ‘best practices’, risk management, and reduction in GHG emissions. Large multinational oil companies – such as BP, Chevron and Total – feature prominently in these indices.

15. Green bonds stand in between private funds and equity indices in the range of climate change related assets and are the most promising source of investment from a pension fund perspective. The fixed-income asset class, to which belong listed bonds, constitutes the preferred asset of pension funds (and of their regulators) as shown in annex 1 & 2. Likewise ‘traditional’ bonds, green bonds can be issued by a variety of institutions: private corporations, governments and international agencies, or financial institutions (when the green bond takes the form of structured products such as a collateral debt obligation, CDO).

16. We can then synthesise the differences between the above mentioned asset classes based on three criteria:

- The “traceability” of the asset class: the level of completeness of information on the underlying investment and its impact on climate change that is available to investors – and to the market;
- The “accessibility” of the asset class: transaction costs and the extent to which prudential regulation provides incentives for investors to buy the asset;
- The “maturity” of the asset class: the extent to which the financial sector has acquired sufficient knowledge and expertise in developing climate change specific products within the asset class.

<b>Climate change related assets</b>	<b>Private funds</b>	<b>Bonds</b>	<b>Equity indices</b>
<b>Traceability</b>	High	High	Low
<b>Accessibility</b>	Low	High	High
<b>Maturity</b>	Medium	Low	High

***Pension funds' potential contribution to climate change financing: above USD100bn annually***

17. Our calculations suggest that pension funds' potential contribution to financing climate change infrastructure would approximate USD289bn in 2013 (USD34bn to private funds, USD127bn to green bonds, USD127bn to equity indices).

*Assumptions about pension funds' potential to climate change financing*

18. To reach these broad estimates we have made the following assumptions:

- Current pension fund investments and exposure (i.e. current share and future commitments) are below 1%, hence leaving considerable room for increase before exposure becomes problematic from a risk diversification perspective;
- Total portfolio grows by +2.0% per year in 2012-2017, +2.2% in 2018-2030 and +1.9% in 2031-2050. These figures correspond to the assumptions about real GDP growth contained in the most recent version of the OECD "baseline long-term economic scenario" which is published regularly in the OECD Economic Outlook series<sup>5</sup>. They should be conservative enough to factor in the current global economic crisis and its long term impact, and considering that past global pension annual asset growth was +4.6 between 2005 and 2010 (+4.3% for the US pension funds).
- The above projection is a reasonable one if – and that is a big if! – no systemic event takes place during the period. Such event could be a financial crisis of the scale of 2008 combined with a demographic chock in the ageing OECD societies that gets out of control which would force pension schemes to heavily divest in order to face exploding pension liabilities.

19. From there we select a global pool of pension funds that is most likely to have the ability to invest in climate change financing:

- The total market value of assets under management by occupational pension funds worldwide was estimated at USD19.3tr end 2010 and USD27tr if one adds public pension reserve funds. But not all pension funds will be able to engage in climate change financing for various reasons. *The decisive factor seems to be size*: large schemes can invest in climate change investments, smaller ones cannot. Unfortunately size indicator is not readily available at global level.
- *As a proxy indicator for pension size we use the share of DB schemes*. Because they are often established as part of a collective bargaining agreements DB schemes are most likely to be large in size (but that is not always the case: DC schemes in Australia for example, are large and concentrated and would certainly have the ability to invest in climate change-related products). According to Towers Watson, DB schemes account for 56% of total assets under management world wide, that is USD10.87tr.

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<sup>5</sup> Vol 2012/1, n°91, May 2012 – table 4.1 <http://dx.doi.org/10.1787/888932610843>

- *Regarding public pension reserve funds, we select all the funds because they are large in size by definition. We do however exclude the US Social Security Trust Fund because by law it is required to invest 100% of its portfolio in US T-bonds, and hence will very unlikely invest in anything else.*

20. When combining the occupational DB funds (USD10.87tr) and the (non-US) public pension reserve funds (USD5.17tr) we obtain a pension fund universe that potentially could contribute to climate change financing of USD15.98tr assets under management. Based on these assumptions, we then define three hypotheses for climate change financing:

- *An annual portfolio re-allocation to clean energy infrastructure funds of +0.2% between 2013 and 2027 and +0.1% between 2028 and 2050. This is a conservative hypothesis considering that current exposure of pension funds to clean energy funds is extremely low and that over the period the cumulative exposure would remain below 5% (4.3% in 2050) which would be consistent with prudential funding rules. Some pension funds might be able to scale up their private investments more rapidly. But we should bear in mind that climate change-related investments will to a great extent take place in emerging and in developing economies – that is far away from the home base of the vast majority of the pension funds (90% being located within the OECD). Geographic distance (and the regulatory and currency risks that go with it) adds to other structural barriers that are specific to private funds such as illiquidity and transaction costs (contract negotiations, access to expertise).*
- *An annual portfolio re-allocation to green bonds of +0.75% for 2013-2015, +0.5% 2016-2019, +0.4% 2020-2023, +0.3% 2024-2030, +0.2%2031-2040, and +0.1% 2040-2050. This is also assumed to be reasonable projection given the popularity of fixed income among pension funds and the need to ensure the cumulative exposure (reaching 11% in 2050) remains within prudential norms. As noted in the following chapter, this is a realistic projection as long as supply side bottlenecks are rapidly resolved.*
- *An annual portfolio re-allocation to climate change-related equity indices of +0.75% 2013-2015, +0.5% 2016-2020, +0.4%2021-2026, +0.3% 2027-2032, +0.2% 2033-2037, +0.1% 2038-2042, +0.05% 2043-2050. There too, the projection would not be too demanding for pension funds, and the annual re-allocation would gradually decrease to taken account of prudential norms (total exposure reaching 10.9% in 2050). But here too supply side problems exist and arguably on a greater scale than for green bonds given that equity indices that are “truly” climate change-related are few (by opposition to broader ‘sustainability’ indices).*

*Three scenarios for pension funds investment: clean energy funds, green bonds, and equity indices*

21. In turn this leads us to three alternative scenarios each with a different combination of the above hypotheses.

Annual shift in the portfolio 2013-2050	Scenario I	Scenario II	Scenario III
From +0.2% to +0.1% to clean energy infrastructure funds			
From +0.5% to +0.1% to green bonds			
From +1% to +0.1% to climate change equity indices			

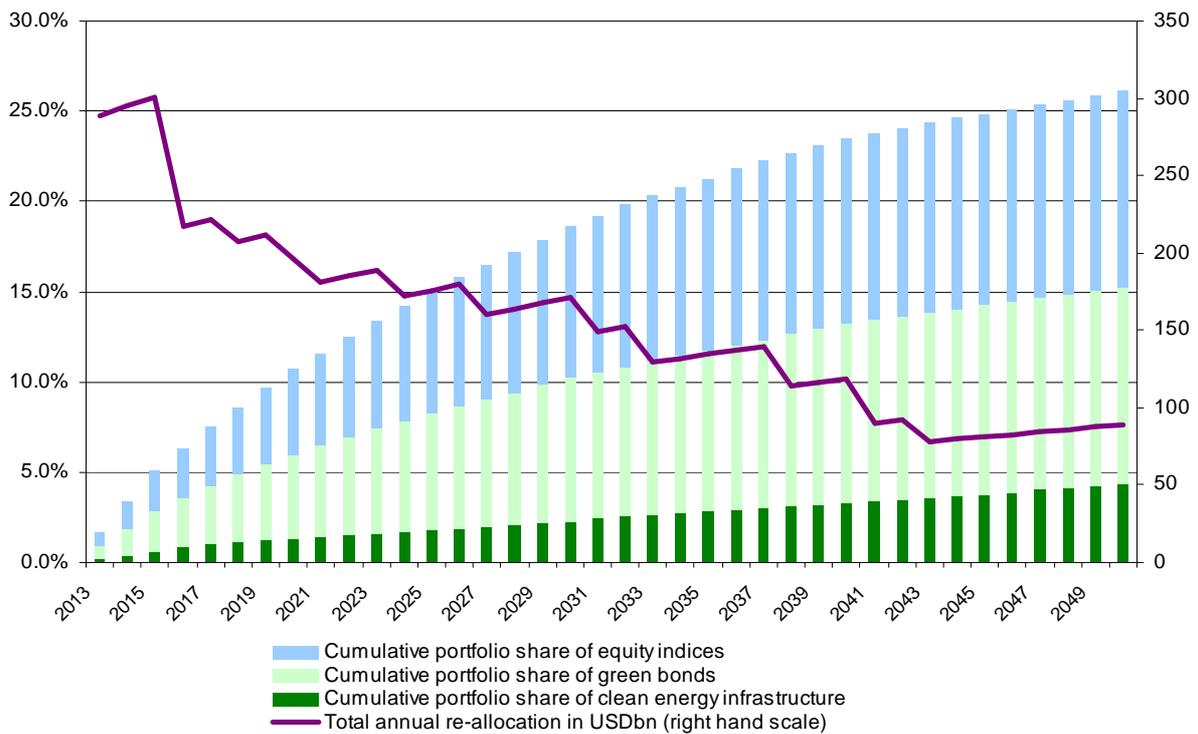
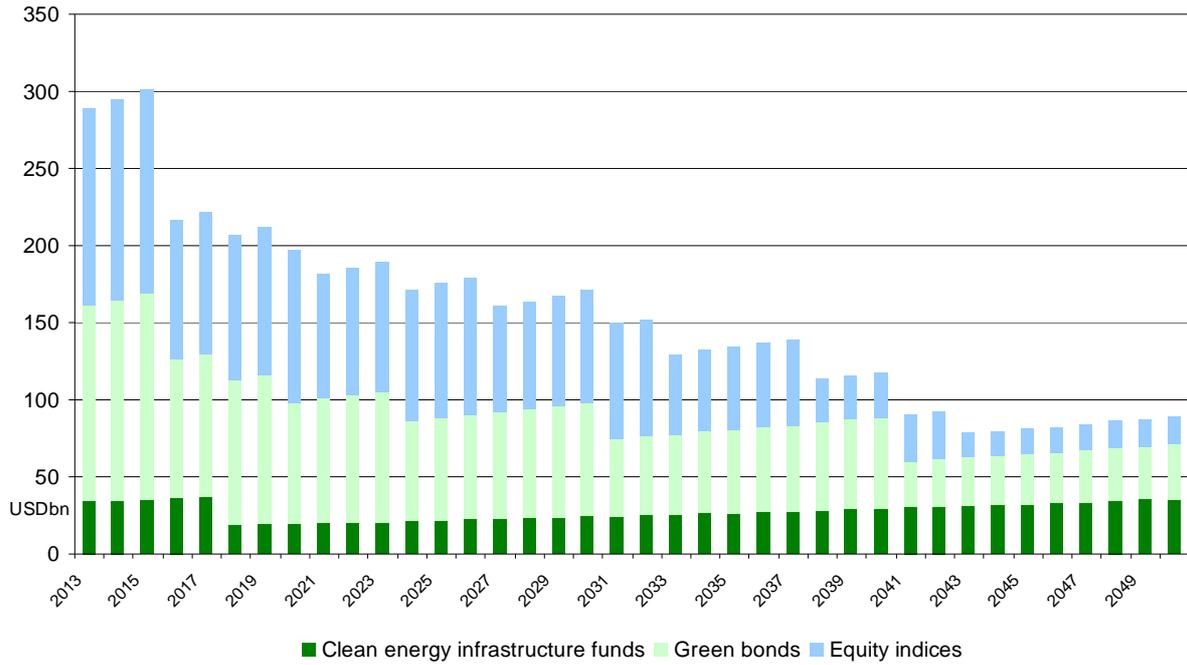
22. In terms of net annual contribution, our projections show that:

- Under scenario I (clean energy infrastructure funds only) some USD34bn could be re-allocated to infrastructure and private equity funds in 2013 and then fluctuate around USD22-33bn until 2050. The total investment flows would reach USD457bn between 2013 and 2030 and USD1514USD between 2013 and 2050;
- Under scenario II (clean energy infrastructure funds + green bonds) USD161bn could be re-allocated in 2013 (USD34bn to private funds + USD127bn to green bonds); allocations would then gradually decrease to some USD100bn in 2020, and fluctuate around USD70-90bn hereafter. Total flows would reach USD2028bn for 2013-2030 and USD3499bn for 2013-2050.;
- Under scenario III (clean energy infrastructure funds + green bonds + climate change equity indices), USD289bn would be reallocated in 2013, USD197bn in 2020 followed by a gradual decrease to some USD90bn in 2040. Total flows under that scenario would reach USD3684bn for 2013-2030 and USD5856bn for 2013-2050.

23. Under the latter scenario, we note that pension funds could well reach 5% of their portfolio allocated to climate change related financial assets by 2015, generating some USD301bn in net contribution.

*Estimates of an annual shift of DB pension funds and public reserve funds' portfolio to climate change financing*

Year	Scenario I	Exposure	Scenario II	Exposure	Scenario III	Exposure
2013	34	0.2%	161	1.0%	289	1.7%
2014	35	0.4%	165	1.9%	295	3.4%
<b>2015</b>	<b>35</b>	<b>0.6%</b>	<b>168</b>	<b>2.9%</b>	<b>301</b>	<b>5.1%</b>
2016	35	0.8%	126	3.6%	217	6.3%
2017	37	1.0%	129	4.3%	221	7.5%
2018	19	1.1%	113	4.9%	207	8.6%
2019	19	1.2%	116	5.5%	212	9.7%
2020	20	1.3%	98	6.0%	197	10.7%
2025	22	1.8%	88	8.3%	176	15.0%
2030	24	2.3%	98	10.3%	171	18.6%
2035	27	2.8%	81	11.8%	134	21.3%
2040	30	3.3%	89	13.3%	118	23.5%
2045	32	3.8%	65	14.3%	81	24.9%
2050	36	4.3%	71	15.3%	89	26.1%
Annual average 2021-2030	22		95		175	
Annual average 3031-2040	27		82		132	
Annual average 2041-2050	33		66		85	
Total 2013–2030 period	457		2028		3684	
Total 2013-2050 period	1514		3499		5856	



**Overcoming barriers and setting priorities**

24. The above estimates are very broad and need to be fine-tuned. They nevertheless give an indication of the potential contribution of pension funds to climate change financing. There are however several challenges and barriers that would need to be addressed and overcome to “unleash” that financial potential.

25. The first barrier, in the short term, might be the current economic crisis. Pension funds have been hit hard by the 2008 market crash and the financial instability that followed. By the end of 2010, pension funds in OECD countries had recovered USD3tr from the USD3.4tr in market value that they lost in 2008. The 3-year average pension fund annual real returns (i.e. inflation adjusted) over 2008-2010 has been -1.4% across OECD. Three years into the crisis, many pension funds across OECD are still well below the minimum funding levels (i.e. having sufficient assets under management to match future pension liabilities). Accordingly, the top priority for pension fund managers is to regain funding sustainability. Such an objective does not necessarily conflict or compete with the long-term objective of greater portfolio exposure to climate change. But the crisis still is a primary concern for the time being and given the inherent risks associated with green energy (see below), pension managers might be reluctant to accept any risk that does not fit their liability structure strictly the regulated funding rules that go with it.

26. A second and perhaps more challenging barrier is on the supply side and the limited access to green investment products. As discussed above, the three asset classes targeted by climate change financing –green bonds, private funds and equity indices – have to reach maturity. Less than 1% of pension funds’ portfolio is allocated to infrastructure funds (whether green or brown), while the green bond market is very small:

- According to the OECD the market size for all green bond issuances to date is approximately USD15.6bn (with USD2.3bn issued by the World Bank alone), a “drop in the ocean” says the OECD, compared to the size of the bond markets (USD95000bn).
- The annual volume of green bond issuances might be closer to USD1-2bn, another “drop in the ocean” compared to the annual financial needs for climate change.

27. The very limited size of the green bond market is of concern because bonds are and will remain the most attractive assets for pension funds (compared to equity and to alternatives). Overall to match the demand side of pension funds, and assuming the above estimate of a reallocation of +USD100bn per year, annual of issuances of green products (bonds, equity and alternatives) should hence be required to grow by... 100 times their current levels. To achieve such massive change in scale on the supply side in the near future, governments and their regulators will need to increase public support mechanism to private financing.

#### *Dealing with the “green risk”*

28. Climate change related investment assets entail a higher degree of risk than ‘brown’ assets. Several factors are at play in explaining the ‘green risk’. The most important one is related to technology. Climate change relies on relatively recent or unproven technologies. Looking at the life cycle of a given industry – (i) early stage technology development, (ii) niche market, (iii) competitive market, (iv) mass market and (v) declining market – the climate change industry is still in the early technology and niche market phases. When combined with capital intensity, green technology risk creates complications for investors to find the right risk-adjusted investment vehicle. Example is given by financing wind and solar technologies as shown in the table below.

*Mapping of green risks – example of the wind and solar technologies*

<b>High capital intensity</b>	- Wind farms, utility-scale solar, use of proven technologies - Financing: asset finance	- Commercial plant using unproven solar cell technology - Financing: “valley of death”
<b>Low capital intensity</b>	- Wind and solar components, use of proven technologies - Financing: direct bank loans	- Wind and solar components, use of unproven technologies - Financing: venture capital
	<b>Low technology risk</b>	<b>High technology risk</b>

Source: OECD

29. Another source of green risk is the lack of predictability of regulations and policies related to climate change (i.e. “policy risk”). Investors have a profound aversion to policy uncertainty or inconsistency and to “uneven level playing fields” between regions and countries. The most recent series of COP summits have exposed divisions between governments. These in turn fuel uncertainty about the effective willingness of policy makers to engage comprehensive and coordinated climate change reforms. Investors will also be concerned by regulatory inconsistencies between policy measures and regulatory incentives aiming at different if not opposite goals. The typical example hereof is the reluctance of governments to put an end to fossil fuel production subsidies. The uncertain policy context of climate change means that investors cannot identify a “price signal” for climate change investments that would be attractive enough compared to brown investments.

30. Green risk also includes substantial cross-border issues that are not easy to apprehend from an investor perspective. If any, climate change is a global issue. Accordingly cross-border investments might be expected to be a generic feature of climate change investments. Yet cross border investments generate their own set of risks. Some of which can be hedged through derivatives (such as exchange rate volatility). But others are more difficult to manage from an individual investor perspective: property risk, corruption risk and a general ‘complexity’ or ‘unfamiliarity’ risks with foreign regulations and legislations.

31. Green risks might be expected to gradually decrease overtime and become less of a concern for pension funds as the clean energy industry becomes more mature. For the time being however, climate change investments need to be supported by pro-active governments polices and regulatory incentives to make them attractive enough for traditional investors’ pension funds.

*Government guarantees and support schemes*

32. Government support schemes to improve the overall risk-return profile of green investments already exist. The most common form of support is a government guarantee scheme on the credit default risk of a green bond. Such guarantee allows a green bond to be rated AAA (and hence be illegible for investment by pension funds and other institutional investors) whereas its ‘stand alone’ rating would be closer to a BB rating. With a few notable exceptions all green bond issuances to date have been accompanied by explicit guarantees by governments, by regional development banks or by the World Bank.

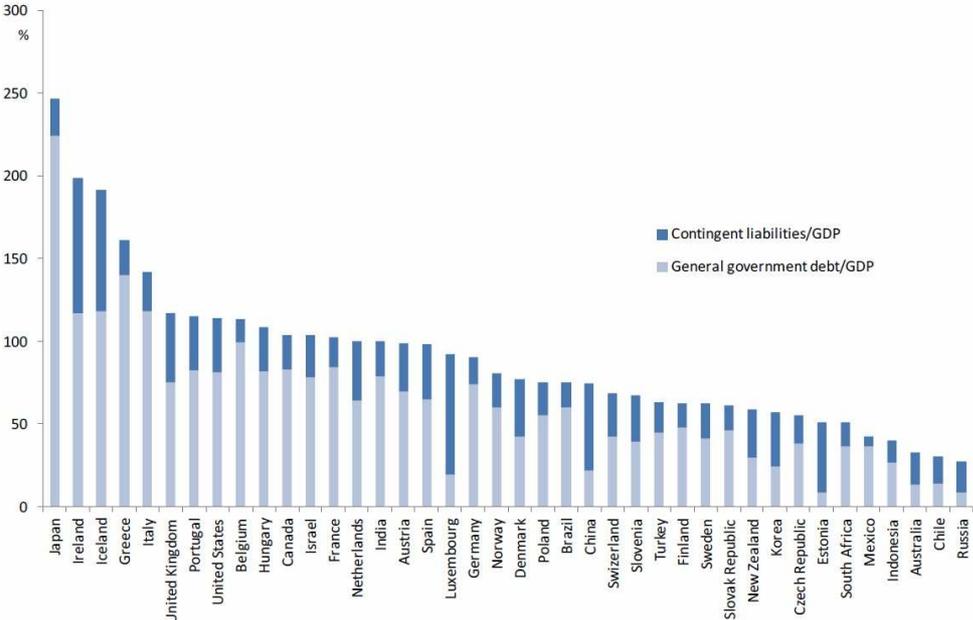
33. Government support to green financing can take other forms: subsidised low-interest direct loans, export credit insurance and facilities, foreign exchange risk insurance and subsidised support services to investment deals. Government-funded/run venture capital fund can also take “first equity loss” positions in green private investment deals. All these forms of

public support to private deals already exist and are quite common under Public-Private Partnerships (PPP).

34. Governments can also leverage green investment through schemes which are not necessarily targeted at financial investors, but which contribute to a more “investor-friendly” environment. These will include various accounting and tax exemptions and preferential treatments (right to accelerated depreciation, investment and R&D tax credit, VAT reduction, etc.), shifting public financing away from greenhouse gas emission activities (such as the above mentioned fossil fuel use or production subsidies) as well as carbon taxes or emission trading schemes

35. To achieve the change in scale that is needed for climate change bonds and private investment funds it is likely that these government guarantees and support schemes will grow in the near future. It is even more likely to happen given the demise of the private “monoline” insurance companies – which are traditional partners of infrastructure project finance – following the crisis. Yet, since the 2008 financial crisis and the massive bailing out of the banking sector that followed we do know that large scale government guarantee schemes do not come free for citizens and taxpayers because they are factored in the sovereign ratings and add up to public debt. As shown in the graph below, government guarantees and other forms of contingent liabilities are equivalent to 20-30% GDP for most OECD economies.

*Contingent liabilities (including government guarantees) and general government debt in GDP % in OECD & emerging economies in 2010*



Source: Kim & Schich 2011

36. More generally a policy discussion might be called upon on the desirable level of public support for green private financing. As the experience of PPPs tells us<sup>6</sup>, imposing clear safeguards, if not restrictions on public support for green private financing might be welcome to avoid situations in which the costs (for governments and their citizens) exceed the benefits (for private finance institutions). In particular, governments should not support private climate

<sup>6</sup> see TUAC paper “PPP – In pursuit of fair risk sharing and value for the people?”, April 2010 [http://www.tuac.org/en/public/e-docs/00/00/06/FE/document\\_doc.phtml](http://www.tuac.org/en/public/e-docs/00/00/06/FE/document_doc.phtml)

change finance if a purely public finance option would constitute a more efficient and transparent solution. From a trade union point of view it is clear that private infrastructure financing – however ‘green’ it is – would become of serious concern if it leads to privatisation or weakening of public services.

*Is the post-crisis financial reform agenda brown coloured?*

37. Trade unions have on several occasions called for G20 post-crisis agenda for financial reforms to be accelerated and deepened. This is justified in its own – global finance needs to be downsized and brought back under control of publicly accountable regulators – but it is also because it would help gradually phase-out the massive government guarantees that were introduced after 2008 to bailout the bankers. Phasing out those guarantees would in turn allow for greater space for enhancing green- and specifically climate change-related government guarantees and support.

38. But would the acceleration of financial reforms *per se* help transition to a low carbon economy? It may be argued that the current G20 reform agenda was designed in a way that does not take full account of the climate change challenge. In particular the need to limit both risk taking behaviours and leverage levels in the financial sector – as aimed for, and for a cause by several reforms – could have the un-intended consequence to slow the flow of green debt and equity financing. Examples of post-crisis reform that may “turn brown” include:

- Basel III: the impact of the new banking prudential framework might increase the cost of direct bank loans to green investments;
- Solvency 2: reforms to pension funding rules in Europe, and the prospect of applying the insurance prudential rules to pension funds may give preferential treatment to bonds with good credit rating and short maturities (such as treasury papers) to the detriment of more risky assets such as infrastructure;
- Accounting standards FAB 158 and IAS19: recent changes in accounting rules may force DB pension plans – those that are leading in the field of climate change investment – to divest from risky assets and to increase exposure to short term assets (listed bonds and listed equity);
- AIFM Directive: the new EU regulation for private equity and hedge funds may also hamper pension funds’ exposure to climate change projects.

39. The current reform agenda also leaves unaddressed the above-mentioned rising complexity of the investment chain:

- asset managers’ accountability to asset owners, and the transparency and reporting requirements of investment vehicles (including derivatives, structured debt products and private investment funds),
- pension trustees’ fiduciary duties, and not least
- sustainability reporting by the invested assets.

40. These are all important regulatory reforms issues that need to be addressed for a true change in scale of private climate change financing.

## *References*

This paper is largely inspired by a project conducted by the OECD Secretariat on “institutional investors and long-term investment” ([www.oecd.org/finance/lti](http://www.oecd.org/finance/lti) ), including “The Role of Pension Funds in Financing Green Growth Initiatives” by Della Croce, Kaminker and Stewart, OECD, Paris, 2011 ([www.oecd.org/dataoecd/17/30/49016671.pdf](http://www.oecd.org/dataoecd/17/30/49016671.pdf) )

Figures on pension funds’ assets and allocation are taken from the OECD “Pension Markets in Focus” publication ([www.oecd.org/daf/pensions/pensionmarkets](http://www.oecd.org/daf/pensions/pensionmarkets)) and “Global Pension Asset Study 2011” by Tower Watson.

The discussion on government guarantees is based on “Guarantee Arrangements for Financial Promises: How Widely Should the Safety Net be Cast?” by Sebastian Schich & Byoung-Hwan Kim, OECD Financial Market Trends, N°1, Volume 2011, January 2011 [www.oecd.org/dataoecd/42/49/48297609.pdf](http://www.oecd.org/dataoecd/42/49/48297609.pdf)

## Annex

### Annex 1: Occupational pension fund assets & asset allocation in a selection of countries and worldwide

Asset under management in USDbn, 2010		Asset allocation (in %)			
		Equities	Bonds	Cash & deposit	Other
United States	10588	49.3	25.6	1.5	23.6
United Kingdom	1943	55.0	35.0	3.0	7.0
Japan	1388	10.6	37.5	4.5	47.4
Australia	1090	46.5	11.0	14.8	27.7
Netherlands	1057	19.5	56.2	4.4	19.8
Canada	1018	33.8	35.5	3.3	27.3
Switzerland	551	28.0	35.0	8.0	29.0
Brazil	301				
Finland	196	47.6	30.5	0.7	21.2
Germany	171	5.2	41.9	3.1	49.8
South Africa	165				
Denmark	154	15.5	70.0	0.5	14.0
Worldwide	19298	47	33.0	1.0	19.0
“DB World” (56%)	10807				

Source: OECD, Towers Watson for the asset distribution for Switzerland, Worldwide and the UK

### Annex 2: Public pension reserve funds assets and asset allocation in selected OECD countries, 2010

Asset under management in USDbn		Asset allocation (in %)					
		Equities	Bonds	Cash & deposits	Land and buildings	Private funds	Other*
US Social Security Trust Fund	2609	0.0	100.0	0.0	0.0	0.0	0.0
Japan Government Pension Investment Fund	1313	22.8	75.8	1.4	0.0	0.0	0.0
Korea National Pension Fund	280						
Canadian Pension Plan	136	38.6	27.2	1.5	6.6	15.1	11.0
Sweden AP1-4 & 6	125	56.1	33.7	0.0	4.3	3.9	1.9
France FRR & AGIRC-ARRCO	121	33.0	40.7	15.6	0.0	1.1	9.6
Spain Social Security Reserve Fund	85	0.0	100.0	0.0	0.0	0.0	0.0
Australia Future Fund	66	39.6	18.1	15.2	5.3	17.7	4.1
Ireland National Pensions Reserve Fund	32						
Belgium Zilverfonds)	23	0.0	100.0	0.0	0.0	0.0	0.0
Norway Government Pension Fund	23	63.0	30.1	4.4	0.0	0.0	2.5
Total worldwide	7782						
Total worldwide (US excluded)	5173						

Source: OECD \* including infrastructure funds and structured products.